

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Assistant Secretary for Housing-Federal Housing Commissioner	Series and Series Number: (Supersedes issue dated May 18, 1995) MATERIALS RELEASE NO. 907e
TO: DIRECTORS, HOUSING DIVISION DIRECTORS, MULTIFAMILY DIVISION DIRECTORS, SINGLE FAMILY DIVISION	ISSUE DATE: July 30, 1998
	REVIEW DATE: July 30, 2001

SUBJECT: 1. Product "Surewall" Surface Bonding Cement

2. Name and Address of Manufacturer W.R. Bonsal Company
P.O. Box 38
Lilesville, NC 28091

Data on the nonstandard product, described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement, or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Surface bonding cement for concrete masonry bearing and non-bearing walls, and cement plaster for interior and exterior walls.

DESCRIPTION:

The "Surewall" surface bonding cement is a pre-blended mixture of Portland cement, hydrated lime, calcium stearate, sand, alkali-resistant (Type E) glass fibers, and other materials. The packaged mixture requires only the addition of water. The first course of concrete blocks is laid in a full mortar bed. The remainder of the blocks are stacked in running bond with no mortar in the joints. A coat of Surewall is then applied to each side of the wall. Surewall may also be used as an exterior or interior cement plaster on normal masonry walls and may also serve as a base for paint or other exterior finishes. Surewall shall not be used for fireplace or chimney construction.

MATERIALS REQUIREMENTS:

The material shall comply with ASTM C 887, "Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar." No material may be added to the mixture except that a bonding agent, approved by W. R. Bonsal Company, may be used. The package shall show the manufacturer's name, date of packaging, and mixing instructions. Packages of "Surewall" which contain lumps shall be discarded. Mixing of "Surewall" shall conform to the manufacturer's instructions. If clumps or balls of glass fibers develop in the mix, the entire batch of "Surewall" shall be discarded.

Concrete masonry units shall meet the requirements of ASTM C 90, "Standard Specification for Loadbearing Concrete Masonry Units", Type I or the face of units shall be sufficiently rough to provide a good mechanical bond for "Surewall".

Grout shall conform to ASTM C 476, "Standards Specification for Grout for Masonry." The mortar shall conform to ASTM C 270, "Standard Specification for Mortar for Unit Masonry", Type N.

DESIGN:

Except as modified herein, the design of masonry walls shall comply with American Concrete Institute (ACI) 530 "Building Code Requirements for Masonry Structures." Construction shall be limited to one story buildings with a basement or two story buildings without a basement. The minimum nominal wall thickness shall be 8" for bearing walls, 6" for exterior non-bearing walls and 4" for interior non-bearing walls.

The maximum allowable compressive stress on the gross area of the block is 45 psi. Beams and girders shall be supported by reinforced masonry pilasters or shall bear on solid masonry block which is not less than 8" in its vertical dimension. These members shall have a bearing at least 3" in length on the support plate to distribute the loads so that allowable stresses are not exceeded.

Reinforced masonry pilasters shall be designed in accordance with ACI 530, "Building Code Requirements for Masonry Structures", Specifications for Masonry Structures and Related Commentaries. The allowable value for f'_m shall be reduced to $0.85 f'_m$.

Walls built in Seismic Zones 2 and 3 shall be built as reinforced walls in accordance with ACI 530, "Building Code Requirements for Masonry Structures," except that the allowed value for f'm shall be reduced to 0.85 f'm. Wall reinforcement shall be tied to steel reinforcing dowels embedded in the foundation. Horizontal reinforcement shall be laid in bond beam courses. Vertical cells which contain steel shall provide a continuous cavity and shall be filled solidly with grout. Bond beam units may be broken out to allow cells to be properly grouted.

"Surewall" shall be a minimum of 1/8" thick, and shall extend down to the top of the footing. Where habitable rooms are provided below grade, foundation walls shall be made water resistant in an acceptable manner. Where no habitable rooms are provided below grade, foundation walls shall be damp-proofed with an acceptable coating.

QUALITY ASSURANCE:

W.R. Bonsal Company shall certify that the Surewall surface bonding cement conforms to requirements of ASTM C 887, "Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar." Portland Cement Association (PCA) shall validate the manufacturer's certification that the "Surewall" surface bonding cement meets requirements of the ASTM C 887. Tests shall be conducted at least once a month by W.R. Bonsal Company and validating tests shall be performed once a year by the PCA. The test record file shall be available to HUD upon request.

CONSTRUCTION:

Except when modified by this MR, the construction shall conform to ASTM C 946, "Standard Practice for Construction of Dry-Stacked, Surface-Bonded Walls." The special features of construction covered by this MR shall be erected by a contractor whose personnel have been trained by W.R. Bonsal Company. W.R. Bonsal Company shall furnish the contractor with a certificate stating that the contractor is qualified to perform the work under this MR. Surewall may be trowelled or spray applied. Spray applied materials shall be trowelled after application. Care shall be taken to check that the full 1/8" minimum thickness has been applied. Surewall shall not be applied when the ambient temperature is less than 40°F or is expected to fall below 40°F in the next 24 hours.

Blocks shall be clean, frost-free and firmly seated in the wall. Surewall shall be protected from rain and freezing until set.

Curing of Surewall shall be sufficient to hydrate the cement. The amount of time required for curing depends upon the weather and the curing material used, but shall be continued for at least 48 hours.

WARRANTY:

W.R. Bonsal Company warrants, for a period of five (5) years from the date of initial occupancy, and that the special structural system covered by this MR will be free of construction defects which seriously affect the structural components or the weather resistance of the property.

W.R. Bonsal Company shall not be responsible for damage resulting from fire, natural catastrophes, or failure of the soil to support the foundation. Copies of this warranty shall be furnished to the owner upon completion of the property. This warranty does not relieve the Builder, in any way, of the responsibility under the terms of the Builder's Warranty required by the National Housing Act or under any provisions applicable to any other housing program.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this MR commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the Office of Consumer and Regulatory Affairs, Manufactured Housing and Standards Division, HUD Headquarters, with a representative list of properties, in which the material, product or system had been used, including complete addresses of descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to HUD Headquarters. Appropriate User Fee shall be sent to:

U.S. Department of Housing and Urban Development
Technical Suitability of Products Fees
P.O. Box 954199
St. Louis, MO 63195-4199

The holder of this MR may apply for revision at any time prior to the Review Date. The revision may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the documents were issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
